

REMARKS

This application has been carefully reviewed in light of the Office Action dated May 3, 2006. Applicant has amended claims 1-3. Reconsideration and favorable action in this case are respectfully requested.

The Examiner has rejected claims 1 – 9 under 35 U.S.C. §112, second paragraph, as being indefinite. In particular, the Examiner argues that the same order for each refresh period cannot be maintained if not all of the bits are displayed in each refresh period.

Applicants respectfully disagree. A particular *order* for a set of values is not dependent upon all values being present. A basketball team could be arranged in the numerical order of each player's jersey number, whether or not all players were present.

Nevertheless, to expedite matters, Applicants have amended claims 1-3 to recite “relative” order. Hopefully, this will resolve the issue.

The Examiner has rejected claims 1 – 9 under 35 U.S.C. §102(e) as being unpatentable over U.S. Pat. No. 5,986,640 to Baldwin. Applicants have reviewed this reference in detail and does not believe that it discloses or makes obvious the invention as claimed.

As discussed in the previous response, while the Baldwin reference uses similar terminology to the claims of the present application, the terms often have significantly different meanings. In particular, Baldwin uses “sub-frame” to denote the time allocated to a *single bit*. Hence, in the five bit pixel word of Baldwin, the most significant bit is the “sixteen unit sub-frame” because the most significant bit of a pixel word controls its respective pixel for sixteen units duration. The successive bits in the pixel word would represent the “eight bit sub-frame”, the “four bit sub-frame”, the “two-bit sub-frame” and the “one-bit sub-frame” (col. 7, lines 25-34).

Baldwin allocates the time units associated with a bit of the pixel word (i.e., the “sub-frame” in Baldwin) over the frame period. Thus, in Figure 6c of Baldwin, for example, the eight-unit sub-frame is allocated into two four-unit values at the start and end of the frame time (8a and 8b), the sixteen-unit sub-frame is allocated into two eight-unit values (16a and 16b), and the four-unit sub-frame is allocated into two two-unit values (4a and 4b)

In Baldwin, the split time units are arranged to be symmetrical about a “center of illumination” or “COI” in the figures. Accordingly, the split time units on one side of the COI are generally in *reverse* order of the time units on the other side of the COI. By contrast, in the present invention, as defined by the amended claims, each refresh period within an image frame displays the bits of an image word in the *same* predetermined relative order (although not all bits are necessary displayed in each refresh period). As the refresh rate is increased, the multiple displays of the same image word will reduce the flicker perceived by a viewer. Because not all bits are shown in each refresh period, lower order bits, which have the smallest display time, can be modulated at a rate within a minimum specification, while higher order bits, which have the longest display time, can be modulated at a frequency to minimize flickering.

As discussed above, in the Baldwin reference, the time units associated with a bit in an image word are split as *mirror images* around the center of illumination. The Examiner states that “...in Figure 6c it can be seen that the bits of the image word are displayed in a same predetermined order (*from the outside to the inside*) for each of the refresh periods, although not all bits (bits 2 and 1) of the image data word are displayed in each refresh period...”. [emphasis added]

The bits of the image word shown in Figure 6c, or any of the other figures of Baldwin, are *not* displayed from the outside to the inside – they are displayed in the order shown, from left to right. The order was specifically chosen to provide symmetry about

the COI – displaying the bits from outside to inside would defeat the very purpose for which the order was chosen by Baldwin.

If the split about the COI is considered to be two refresh periods, it is clear that the order of displaying the bits of the image word is not the same in each refresh period. *Where the solution of Baldwin may improve dynamic contouring, the viewer will still see a pattern repeated at the frame rate, not at the refresh rate.* Therefore, a strong component of flickering will persist at the frame rate, rather than the faster, and less noticeable, refresh rate.

Since Baldwin does not show a system where an image word is shown in multiple refresh periods within a frame period, with the bits of the image word shown in a predetermined relative order in each refresh period and not all bits of the image word are shown in each refresh period, Applicant respectfully requests allowance of independent claims 1-3. Applicant also requests allowance of dependent claims 4-9.

An extension of one month is requested and a Request for Extension of Time under § 1.136 with the appropriate fee is attached hereto.

The Commissioner is hereby authorized to charge any fees or credit any overpayment, including extension fees, to Deposit Account No. 20-0668 of Texas Instruments Incorporated.

Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Alan W. Lintel, Applicants' Attorney at (972) 664-9595 so that such issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

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